

U9B

Force Transducers

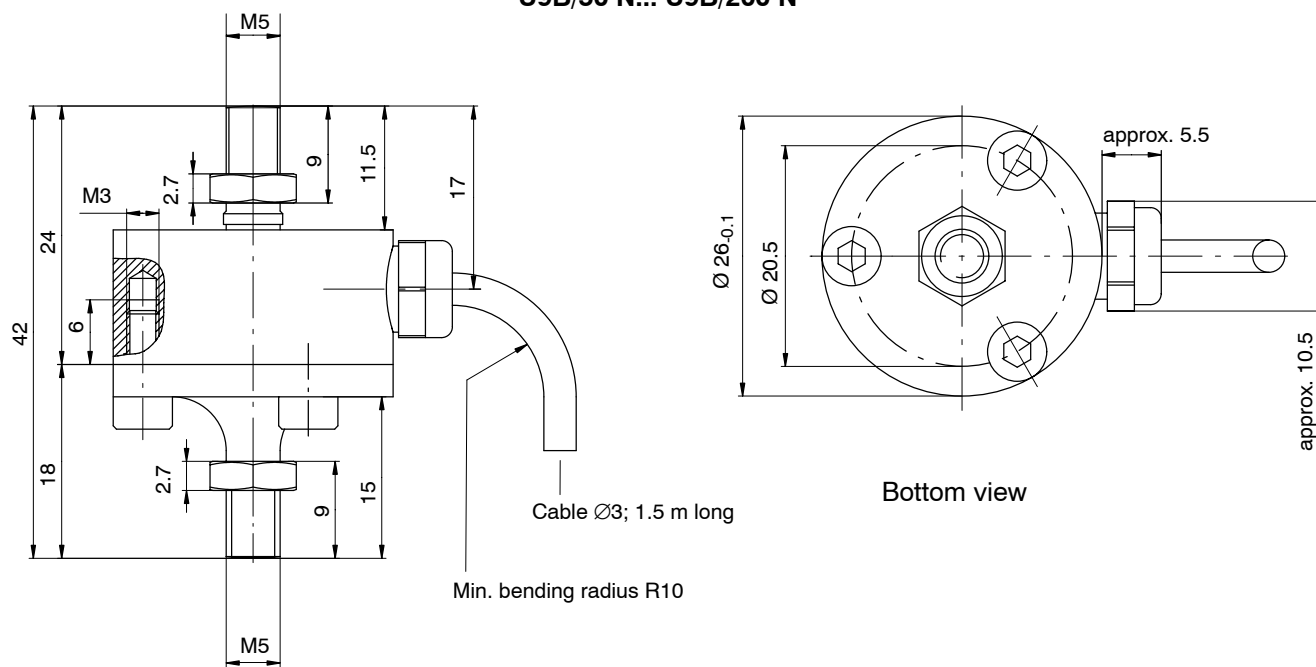


Special features

- **Tensile / compressive force transducer in non-rusting material**
- **Nominal (rated) forces 50 N ... 50 kN**
- **Small size**
- **Accuracy class 0.5**
- **Maintenance-free knuckle eye as force-introduction aid**

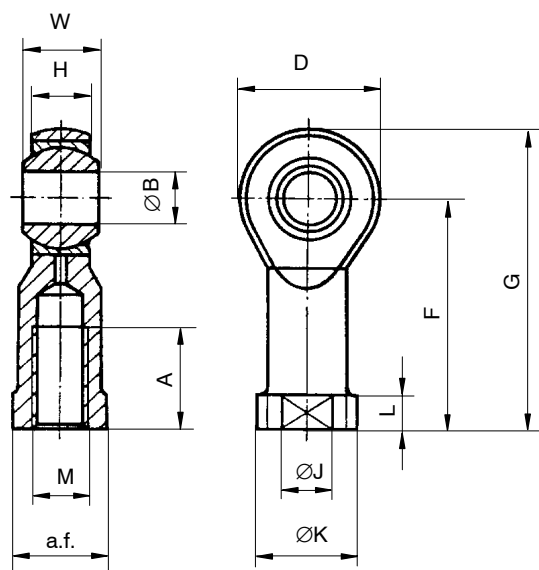
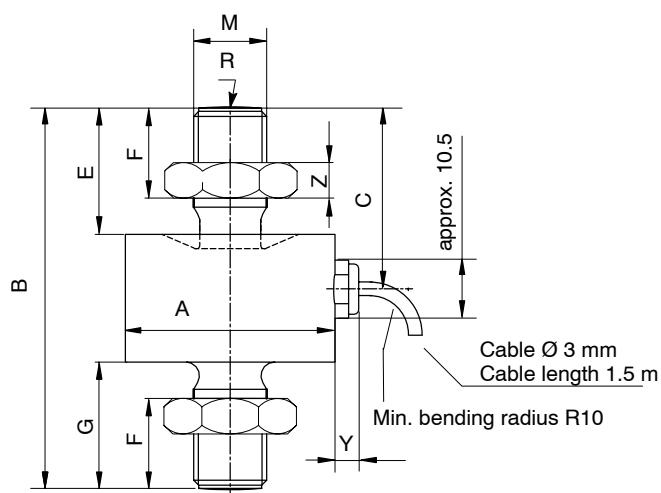
Dimensions (in mm; 1 mm= 0.03937 inches)

U9B/50 N... U9B/200 N



U9B/0.5 kN ... U9B/50 kN

Knuckle eye ZGW



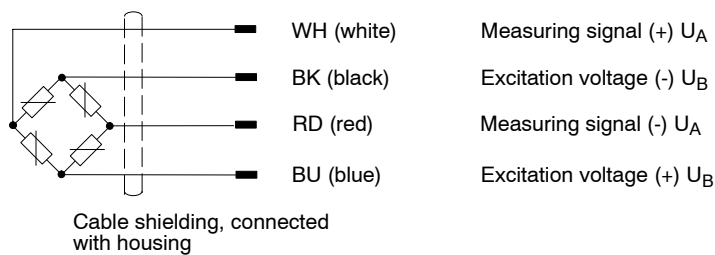
All dimensions in mm

Nominal (rated) force U9B	A _{0.1}	B	C	E	F	G	M	R	Y	Z
0.5...1 kN	26	44.5	20.5	13	9.5	13.5	M5	20	approx. 5.5	2.7
2...20 kN	26	60	28.5	21	16	21	M10	40	approx. 5.5	5
50 kN	46	84	40	28	21.5	28	M16x1.5	80	approx. 5.5	8

Knuckle eye:

Nominal (rated) force ZGW	A	B	D	F	G	H	J	K	L	M	a.f.	W
50 N...1 kN	10	5 ^{H7}	18	27	36	6	9	11	4	M5	9	8
2...20 kN	20	10 ^{H7}	28	43	57	10.5	15	19	6.5	M10	17	14
50 kN	28	16 ^{H7}	42	64	85	15	22	27	8	M16x1.5	22	21

Cable assignment (Four wire-circuit)



Specifications

Type			U9B										
Nominal (rated) force	F _{nom}	N	50	100	200								
		kN				0.5	1	2	5	10	20	50	
Accuracy class			0.5										
Nominal (rated) sensitivity	C _{nom}	mV/V	1										
Rel. sensitivity deviation	d _c	%	≤ ± 1 tension / ≤ ± 2 compression										
Temperature effect on the sensitivity per 10 K in the nominal (rated) temperature range in the operating temperature range	TK _C	% %	≤ ± 0.5 ≤ ± 0.8										
Temperature effect on the zero signal per 10 K in the nominal (rated) temperature range in the operating temperature range	TK ₀	% %	≤ ± 0.5 ≤ ± 0.8										
Linearity	d _{lin}	%	≤ ± 0.5										
Rel. reversibility error	U	%	≤ ± 0.5										
Rel. repeatability error without rotation	brg	%	≤ ± 0.5										
Creep over 30 min	d _{crF+E}	%	≤ ± 0.2										
Input resistance	R _e	Ω	> 345										
Output resistance	R _a	Ω	300-400										
Insulation resistance	R _{Is}	GΩ	> 1 x10 ⁹										
Operating range of supply voltage	B _{U,G}	V	0.5...12										
Reference supply voltage	U _{ref}	V	5										
Reference temperature	t _{ref}	°C [°F]	+ 23 [+73.4]										
Nominal (rated) temperature range	B _{t,nom}	°C [°F]	-10...+70 [+14...+158]										
Operating temperature range	B _{t,G}	°C [°F]	-30...+85 [-22...+185]										
Storage temperature range	B _{t,S}	°C [°F]	-30...+85 [-58...+185]										
Protection to DIN EN 60 529			IP 67										
Nominal (rated) measuring displacement ± 15 %	S _{nom}	mm	< 0.1										
Natural frequency ± 15 %		kHz	6.3	9.2	14.5	15.5	23.7	18.7	20	23	27.8	20	
Working force	(F _G)	%	300			120							
Breaking force	(F _B)	%	> 500			> 200							
Relative static lateral limit force ¹⁾	(F _Q)	%	100			40		20					
Permissible vibration amplitude to DIN 50 100	F _{rb}	%	70										40
Weight, approx.		g	75			65	100					400	
Cable length		m	1.5										

¹⁾ referred to the 2 mm force introduction point above diaphragm

Order numbers:

Force transducer

Order code	Nominal (rated) force										Unit
1-U9B/ ...	50	100	200								N
				0,5	1	2	5	10	20	50	kN

Ordering numbers: 1-U9B/2kN

Accessories (to be ordered separately)

1-Z8/100kg/ZGW	Knuckle eye 50 N ... 1 kN
1-U9/20kN/ZGWR	Knuckle eye 2 kN ... 20 kN
1-U9A/50kN/ZGW	Knuckle eye 50 kN
D-15D/MONT	15pin D-connector, mounted to transducer cable
D-MS/MONT	MS3106PEMV-connector, mounted to transducer cable